Supplementary Materials

Appendix S1. A summary and description of the levels within the road section, season, time period, vehicle traffic intensity, precipitation variables, and an overview of the number of quail surveys undertaken each year in each road section, season, time period, and precipitation status.

Variable	Value	Definition	Number of Surveys
Road section	MK	Kenepuru Head to Manaroa	480
	KP	Kenepuru Head to Portage	480
	PT	Portage to Te Mahia	485
	TL	Te Mahia to Linkwater	492
	LP	Linkwater to Picton	152
	LH	Linkwater to Havelock	337
Season	Spring	1 September–30 November	726
	Summer	1 December–28 February	1103
	Autumn	1 March–31 May	404
	Winter	1 June–31 August	193
Time period	Morning	Sunrise–1200 hrs	1017
	Afternoon	1201–1700 hrs	989
	Evening	1701–Sunset	420
Vehicle Traffic Intensity	Low	0–10 vehicles	1728
	Medium	11–30 vehicles	555
	High	> 30 vehicles	143
Precipitation	No precipitation	Not raining	2078
	Precipitation	Raining	348
Year	2010	26th October–30th December	81
	2011	7th January–24th December	159
	2012	3rd January–28th December	305
	2013	6th January–21st December	259
	2014	5th January–24th December	231
	2015	3th January–31st December	249
	2016	4th January–24th December	249
	2017	4th January–27th December	379
	2018	3rd January–31st December	424
	2019	5th January–21st March	90

Appendix S2. Summary of general linear hypothesis tests (pair-wise post-hoc tests) run in R on the predictor variable 'Section' to determine which individual road sections differed significantly in their quail counts. Initials refer to the road section: Manaroa to Kenepuru Head = MK, Kenepuru Head to Portage = KP, Portage to Te Mahia = PT, Te Mahia to Linkwater = TL, Linkwater to Picton = LP, and Linkwater to Havelock = LH. Significant effects ($P < 0.05$) have an * next to the p-value. Estimates indicate the direction of the effect, for example the estimate of −0.698 and p value of < 0.001 for MK-KP indicate that KP had significantly lower quail counts than MK.

Paired sections	Estimate	Standard error	P value
LH–KP	−0.053	0.183	0.100
LP–KP	0.178	0.196	0.938
MK–KP	−0.698	0.141	< 0.001*
PT–KP	0.762	0.100	< 0.001*
TL–KP	0.702	0.108	< 0.001*
LP–LH	0.231	0.211	0.872
MK–LH	−0.645	0.200	0.014*
PT–LH	0.815	0.172	< 0.001*
TL–LH	0.755	0.165	< 0.001*
MK–LP	−0.876	0.212	< 0.001*
PT–LP	0.584	0.190	0.019*
TL–LP	0.524	0.177	0.033*
PT–MK	1.460	0.128	< 0.001*
TL–MK	1.400	0.134	< 0.001*
TL–PT	−0.060	0.089	0.982

Appendix S3. Summary of general linear hypothesis tests (pair-wise post-hoc tests) run in R on the predictor variable 'Time Period' to determine which individual time periods differed significantly in their mean quail counts. Morning = sunrise–1200, Midday = 1201–1700, Evening = 1701–sunset. Significant effects (P < 0.05) have an * next to the p-value. Estimates indicate the direction of the effect, for example the estimate of 1.122 and p value of < 0.001 for evening-afternoon indicate that there were significantly greater quail counts during the evening compared to the afternoon.

Paired time periods	Estimate	Standard error	P value
Evening–afternoon	1.122	0.100	< 0.001*
Morning–afternoon	0.874	0.092	< 0.001*
Morning–evening	−0.248	0.078	0.0046*

Appendix S4. Summary of general linear hypothesis tests (pair-wise post-hoc tests) run in R on the predictor variable 'Season' to determine which individual seasons differed significantly in their mean quail counts. Significant effects (P < 0.05) have an * next to the p-value. Estimates indicate the direction of the effect, for example the estimate of 1.341 and p value of <0.001 for Spring–Autumn indicate that there were significantly greater quail counts during Spring compared to Autumn.

Paired seasons	Estimate	Standard error	P value
Spring–Autumn	1.341	0.156	< 0.001*
Summer–Autumn	1.038	0.155	< 0.001*
Winter–Autumn	−0.362	0.365	0.727
Summer–Spring	−0.303	0.072	< 0.001*
Winter–Spring	−1.703	0.338	< 0.001*
Winter–Summer	−1.399	0.339	< 0.001*

Appendix S5. Summary of general linear hypothesis tests (pair-wise post-hoc tests) run in R on the predictor variable 'Vehicle Traffic' to determine which individual traffic categories differed significantly in their mean quail counts. Significant effects (P < 0.05) have an * next to the p-value. Estimates indicate the direction of the effect, for example the estimate of 1.247 and p value of <0.001 for low–high vehicle traffic indicate that there were significantly greater quail counts during low vehicle traffic compared to high.

Paired traffic categories	Estimate	Standard error	P value
Low–High	1.247	0.338	< 0.001*
Medium–High	0.767	0.331	0.048*
Medium–Low	−0.480	0.119	< 0.001*